EXPO 2015: AN IMPACT ANALYSIS ON INTERNATIONAL TRADE.

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1. Introduction.

The organization of mega-events became object of a strong competition since the second half of the last century, and in particular in the last two decades, encouraged by great benefits that they can lead from a lot of points of view, as infrastructures improvement, urban renovation or the touristic promotion of a certain destination. The only events that really can contribute to the attainment of these goals are the Olympic Games and the universal exposition: against huge and certain costs, these events don't guarantee benefits of any kind.

Many economists and researcher pointed out their doubts in the recent past, underlining as this genre of events impose high costs on the country host that will not compensate by the revenues strictly correlated to the event or by the legacy in terms of infrastructures or services. A first confirm is given by reading the

balances of the organizational committees of the last Olympics or Expos. However, countries ready to apply themselves and to assure important economic resources to become Olympic or Expos host are always more and more; furthermore, this choice is always supported by populations in spite of great expenses incurred by the State.

This paper intends to investigate if the organization of a mega-event –like an universal exposition– could bring to economic consequences such that the countries engagement in the event's bid and the people enthusiasm are justified. In particular, we'll try to analyze if an exposition impact in a very remarkable way on international trade, ending up being a determinant of the host trade openness, justifying countries interest in their organization. In case we'll find an impact on international trade, we'll try to hypothesize the cause of the effect, defining its nature and its potential.

The research will be presented in light of the universal exposition Milan will host in 2015. Expo 2015 intends to be a showcase that Lombardy main town offers to all participants in order that they can promote their productive, cultural and social excellences; the event, that at the moment is still in the initials stage of its organization, could become a great opportunity for Milan and Italian economy. Based on the results of the different analysis presented we will try to highlight risks and opportunity for Italian commercial system.

2. Mega events and expositions.

In the social and economic literature of the last two decades there is an increasing attention to those that main authors have defined mega-events or big-events, referring to events which planning and organization has sizeable effects not only at a territorial level, but also at social, politic, cultural and economic levels (Ritchie, 1984; Burns e Mules, 1986; Getz, 1989; Roche, 2000; Hiller, 2000)1. A way to get to a unique definition of a mega-event is referring to its peculiarity, that is to those characteristics and variables that make and event a mega-event. They can be summarized in: skill to attract wide touristic masses and the media attention; limited duration and low frequency in the time; social utility and cultural development; accessibility to many targets; high number of countries participants; ability to improve host's image; high organizational costs and complex infrastructures required.

We can reasonably believe that only the events that satisfy these characteristics can be retained mega-events, suggesting for those which lack a few peculiarity some alternative definition (like hallmark events, special events, community events). In the light of literature and proposed definition, the only events considerable mega events are the Olympic Games and the exposition.

Expositions are a creation of the 19th century society dedicated to popularize scientific culture and technologic developments with show that could appeal a wide public. Expositions are born like "the construction of a spectacular space of consumption" (Pred 1995), in which in only a place all the possibility offered by scientific progress were concentrated. In the course of time these events changed into, changing in part their nature and losing appeal and importance, also because of not very clear organizational mechanisms.

Last decades scientific improvements in communication and transports don't allow yet to consider expositions as means suited to show scientific progresses of an industry or an economy; they show excellences and culture of more countries and more populations. They are places in which one could visit the world simply moving from a pavilion to another, meeting cultures, economies, technologies and people from every place. Today an exposition can be defined as "a display which, whatever its title, has as its principal purpose the education of the public: it may exhibit the means at man's disposal for meeting the needs of civilisation, or demonstrate the progress achieved in one or more branches of human endeavour, or show prospects for the future"2. So, they aren't commercial event, so much so this type of activities are strictly regulated by Bie.

The impacts of such importance events on a country and a community are different and several: for example, think to the territorial transformation, the international legitimation of the host or to the touristic promotion of a city or a whole country3. From a macroeconomic point of view a mega-event can affect many variables of an economy, like gross domestic product, added value or employment. This paper focuses on exposition impact on international trade: we wonder if a mega-event as an universal Expo, which Italy will host in 2015, can affect host exports and imports, so that it favours its commercial openness and, in the present economic crisis, it could be a grown opportunity.

3. Methodology and data.

The methodology followed in this paper draws on Rose, Spiegel (2008), which work focuses on Olympic Games impact on international trade.

The analysis has been developed using gravity model: the assumption is that bilateral international trade flows between a pair of countries are functions of the distance between two countries and size of two economies. This basic version of the model has been expanded adding in the equation other factors which can influence trade intensity.

The equation used to assess the exposition effects on international trade flows is:

$$\begin{aligned} ln(X_{ijt}) = {} & \beta_0 + \beta_1 ln(D_{ij}) + \beta_2 ln(Pop_{it}) + \beta_3 ln(Pop_{jt}) + \beta_4 ln(GDPpc_{it}) + \beta_5 (GDPpc_{jt}) \\ & + \beta_6 Cont_{ijt} + \beta_7 Currency_{ijt} + \beta_8 Language_{ij} + \beta_9 RTA_{ijt} + \beta_{10} Border_{ij} \\ & + \beta_{11} Islands_{ij} + \beta_{12} Area_{ij} + \beta_{13} ComColony_{ij} + \beta_{14} Colony_{ijt} \\ & + \beta_{15} EverCol_{ij} + \beta_{16} SameCountry_{ijt} + \gamma_E Expo_{it} + \gamma_U Universal_{it} \\ & + \gamma_I International_{it} + \varepsilon_{ijt} . \end{aligned}$$

Where i stands for the exporter country, j for the importer country, t is for time, ln(-) is the natural logarithm, and the variables are defined as:

- X_{ijt} is for FOB exports from i to j, measured in million dollars;

- D is the distance between i and j;
- Pop is population;
- $GDPpc$ stands for annual real GDP per capita;
- $Cont$ indicates how many countries in the pair are landlocked (0/1/2);
- $Currency$ is a dummy variable which is 1 if i and j use the same currency at time t;
- $Language$ is a dummy variable which is unity if i and j use the same language;
- RTA is a dummy variable which is unity if i and j are joined by regional trade agreement at time t;
- $Border$ is a dummy variable which is unity if i and j are neighbouring;
- $Islands$ is the number of island in the pair (0/1/2);
- $Area$ is the logarithm of the product of the areas of the countries;
- $ComColony$ is a dummy variable which is unity if i and j were both colonised by the same country;
- $Colony$ is a dummy variable which is unity if i colonized j at time t or vice versa;
- $EverCol$ is a dummy variable which is unity if i has never colonized j or vice versa;
- $SameCountry$ is a dummy variable which is unity if i is part of the same country at time t (or vice versa);
- β is a vector of nuisance coefficients;
- $Expo$ is a dummy variable which is unity if i hosted an exposition in the post-world war II period;
- $Universal/International$ are dummy variables which are unity if i hosted an Universal/International exposition in the post-world war II period;
- ε represents the omitted other influences on bilateral exports, assumed to be well behaved.

Regressions performed in this paper made use of panel data (multi-dimensional data), i.e. data in which it's possible to get information on the same statistics units i:1,2,…,N for a certain number of time periods t:1,2,…,T. More exactly, data set used includes all the yearly observations since 1950 to 2006 for 196 countries (with many missing observations)4.

The aim of this analysis is estimating coefficient Y, which represents the effect on bilateral exports associated with hosting exposition, holding other export determinants constant through the model. Regressions, estimated with the within estimator, were developed in two ways: at first estimating the effects of Universal and International Expo separately (in this case we set $\gamma_E=0$); afterward estimating a single common effect regardless of the type of expositions hosted (in this case we set $\gamma_U=\gamma_I=0$). We have estimated the equation in three different steps: without any fixed effect, with the set of dyadic-specific fixed effects and also with sets of exporter and importer fixed effects. This methodology allowed us to absorb any time-invariant characteristics that are common to a pair of countries and to take account of any time-invariant country-specific factors.

The list of the Expos considered is tabulated in the Appendix. After an exchange of mail with some Bie official, some Expos you can easily find in a lot of list available on web are not considered, because they

weren't registered by Bureau International des Expositions itself. For this reason, Expos of 1951, 1957 and 2002 doesn't appear in our list.

4. Main results.

In this section you can find main results of our assessments. For a better text simplicity and to facilitate reading, only the main results are reported in this section; the whole results were reported in the Appendix.

4.1 The effect on exports.

The first analysis concerned the assessment of the permanent effect of Expos on country exports. Permanence has been given building Expo variables which were unity since the year in which a country hosted an exposition and 0 in the previous years.

Before passing on examining most interesting coefficients, it's good focusing a moment on other exports determinants. In fact, some coefficients suggest us the pertinence of the gravity model. For example, β_1 is statistically significant: it indicates that exports between a pair of countries fall with distance, and in a remarkable measure. The size of other two coefficients, β_3 and β_5, indicates that larger and richer countries tend to import more. Exports also grow when two countries share currency, language or even if they were colonized both by the same country. These results don't interest strictly the analysis, however they demonstrate how the choice of the gravity model is appropriate.

Now we can focus on the analysis of the effect.

Table 1 – Permanent Expo effect on exports.

	Fixed effect: exporter, importer
Universal Exposition	0,13 *(0,02)*
International Exposition	0,05 *(0,02)*
Logarithm Distance	-1,28 *(0,01)*
Logarithm Exporter Country Population	-0,29 *(0,03)*
Logarithm Importer Country Population	0,91 *(0,01)*
Logarithm GDP p/c Exporter country	1,26 *(0,02)*
Logarithm Pil p/c Importer country	1,22 *(0,01)*
Currency	0,85 *(0,03)*
Language	0,43 *(0,01)*
RTA	0,31 *(0,01)*
Cont	0,44 *(0,02)*
Islands	0,38 *(0,01)*
Logarithm product Area	-0,06 *(0,00)*
Com Colony	0,56 *(0,02)*
Colony	0,83 *(0,07)*
EverCol	1,52 *(0,02)*
SameCountry	-0,50 *(0,11)*
R2	*0,9637*

Robust standard errors in parentheses. Temporal effect calculated but not recorded.

Countries that hosted an universal exposition have a level of export permanently higher by some 14% ($[e^{0.13} - 1]$). This result, even if far from the effect of a regional trade agreement (which impact is about 36%), for example, isn't certainly scant. On the other hand, the impact of an international exposition is smaller: the effect is quantifiable in about 5%. This result doesn't take us by surprise, because international expositions are Expos reduced in the exhibition spaces, of shorter length and with a smaller number of visitors: it appears obvious that a smaller involvement of the host country coincides with a smaller impact on international trade of the country itself.

The transitory effect estimate is different; you can find them in the following table. The transitoriness of the effect has been given by the construction of two dummy variables for the two different type of expositions which were unity only in the year of the Expo and zero otherwise. This assessment doesn't show any particularly interesting result. The effect connected with universal expositions is even negative; the international exposition one is a little above zero. However, the other coefficients confirm again the model validity.

Table 1b – Transitory Expo effect on exports.

	Fixed effect: exporter, importer
Universal Exposition	-0,02 *(0,04)*
International Exposition	0,02 *(0,07)*
Logarithm Distance	-1,28 *(0,01)*
Logarithm Exporter Country Population	-0,31 *(0,03)*
Logarithm Importer Country Population	0,91 *(0,01)*
Logarithm GDP p/c Exporter country	1,27 *(0,02)*
Logarithm Pil p/c Importer country	1,22 *(0,00)*
Currency	0,85 *(0,03)*
Language	0,43 *(0,01)*
RTA	0,31 *(0,01)*
Cont	0,44 *(0,02)*
Islands	0,38 *(0,01)*
Logarithm product Area	-0,06 *(0,00)*
Com Colony	0,56 *(0,02)*
Colony	0,83 *(0,07)*
EverCol	1,52 *(0,02)*
SameCountry	-0,50 *(0,11)*
R2	*0,9637*

Robust standard errors in parentheses. Temporal effect calculated but not recorded.

So, we can conclude that expositions effect on export of the host country is permanent and not transitory. This result is surprising, we reasonably would have expect a temporary impact, but expositions affect structure of host country commercial system.

4.2 The effect on the import.

To verify the impact of exposition on host country import, we have replaced bilateral exports with bilateral imports (i.e. exports from i to j are replaced by imports in i from j). Even in this case we have divided the effect in permanent and transitory, by dummy variables constructed as done previously. If estimates showed an effect also on imports of the host countries, then we would run into a veritable determiner of country trade openness, and not only a simple event acting as exports stimulating.

Table 2 – Permanent Expo effect on imports.

	Fixed effect: exporter, importer
Universal Exposition	0,20 *(0,02)*
International Exposition	0,49 *(0,02)*
Logarithm Distance	-1,09 *(0,01)*
Logarithm Exporter Country Population	0,56 *(0,02)*
Logarithm Importer Country Population	1,05 *(0,01)*
Logarithm GDP p/c Exporter country	0,69 *(0,02)*
Logarithm Pil p/c Importer country	1,56 *(0,00)*
Currency	0,87 *(0,03)*
Language	0,47 *(0,01)*
RTA	0,43 *(0,01)*
Cont	0,66 *(0,02)*
Islands	0,24 *(0,01)*
Logarithm product Area	-0,05 *(0,00)*
Com Colony	0,68 *(0,01)*
Colony	0,71 *(0,07)*
EverCol	1,29 *(0,02)*
SameCountry	-0,21 *(0,13)*
R2	*0,9609*

Robust standard errors in parentheses. Temporal effect calculated but not recorded.

Coefficients associated to permanent effect are significant, positive and remarkable. Literally, to host an universal Expo implicate imports are higher by some 22% ($[e^{0,20} - 1]$), whereas the effect associated to an international expositions is quantifiable in about 63% ($[e^{0,49} - 1]$). We are surprised that these values are very higher than exports effect. Furthermore, in this case an higher effect connected with international exposition is pointed out. To delve into these evidences, we could make an analysis divided by sectors, to verify in which industries the main effect is that concerned with incoming or outcoming flows; anyway, lack of official data makes this working hypothesis hardly practicable.

These results suggest that expositions don't operate only as events promoting exports, but they are associated to an openness of host country economy, increasing trade –permanently– between the host country and the rest of the world, in both directions. So, an Expo effect on international trade exists, and probably it doesn't derive from infrastructural and organizational activity connected with the event in itself, but from a political and institutional signal, directed to launch or to reaffirm a country in the international economic panorama, taking advantage of the showcase offered by the mega-event. In this sense you can read the intense institutional activity and the great politic cooperation that Italy has presented supporting Milan candidature, and in this sense you can read risk that this effect were neutralized by continuing delays and project downsizings.

Once again transitory effect appears insignificant, as you can deduce by the following table. Universal exposition impact is quantifiable in about 2%; the international exposition one in about 5%. Also for imports, as seen previously, the impact of an exposition is permanent.

Table 2b – Transitory Expo effect on imports.

	Fixed effect: exporter, importer
Universal Exposition	0,02 *(0,05)*
International Exposition	0,05 *(0,03)*
Logarithm Distance	-1,09 *(0,01)*
Logarithm Exporter Country Population	0,47 *(0,02)*
Logarithm Importer Country Population	1,05 *(0,00)*
Logarithm GDP p/c Exporter country	0,72 *(0,02)*
Logarithm Pil p/c Importer country	1,56 *(0,01)*
Currency	0,88 *(0,03)*
Language	0,48 *(0,01)*
RTA	0,43 *(0,01)*
Cont	0,66 *(0,02)*
Islands	0,24 *(0,01)*
Logarithm product Area	-0,05 *(0,00)*
Com Colony	0,68 *(0,01)*
Colony	0,71 *(0,07)*
EverCol	1,30 *(0,02)*
SameCountry	-0,21 *(0,01)*
R2	*0,9609*

Robust standard errors in parentheses. Temporal effect calculated but not recorded.

So, expositions always coincide with new trade openness of the host country and they don't play a role of simple trade flows promoter: indeed, this event increase trade between the host country and the rest of the world in both directions and in a permanent way. We can hint an hypothesis about the real nature of this effect: an Expo effect on international trade exist and it isn't due to the constructional or organizational activity of the event in itself, but to a political and institutional signal that can create an atmosphere of openness to international trade throughout exposition.

4.3 Forwarded and delayed effect.

We can reasonably assert that the impact of a mega-event on international trade flows can show itself in advance or in delay compared with the year of the event: in advance, as consequence of the signal launched by country with the event, in delay as result of the promotion and the propaganda that host country got through the event. Following results concern with the analysis performed bringing forward and delaying dummy variables connected with permanent and transitory effects.

Regressions have been made advancing dummies of interest by one, two and three periods. As regard for the forwarded variables, it would be appropriate to make this analysis advancing the effect of as much years as they are between the awarded of the event and its effective beginning; however, only in the last fifteen years a fixed time-frame between this two moments exists, whereas in the past this period was very variable (and even some expositions had been registered by Bie only after their conclusion) because of awarding

mechanism not very clear and of little interest of many countries in this kind of events. Our choice has been advancing dummies by three periods, period of time in which, undoubtedly, country promotion grows (the year of the exposition is approaching) and the planning and infrastructural activity gets intense (this if you didn't accept the previous hypothesis according to which exposition effect on international trade openness derives from a political signal launched by host country and then you would traced it to infrastructural activity or to touristic flows increase).

Following tables resume results of the 12 regressions performed, relative to permanent and transitory effect, with fixed effect exporter importer.

Table 3 – Forwarded and delayed permanent Expo effect.

	Advance			**Exposition Year**	**Delay**		
	3 years	**2 years**	**1 year**		**1 year**	**2 years**	**3 years**
Universal Exposition	0,08 *(0,02)*	0,09 *(0,02)*	0,11 *(0,02)*	0,13 *(0,02)*	0,11 *(0,02)*	0,10 *(0,02)*	0,10 *(0,02)*
International Exposition	0,06 *(0,02)*	0,06 *(0,02)*	0,06 *(0,02)*	0,05 *(0,02)*	0,02 *(0,02)*	0,00 *(0,02)*	-0,02 *(0,02)*
Universal or International Exposition	0,18 *(0,02)*	0,19 *(0,02)*	0,20 *(0,02)*	0,21 *(0,02)*	0,17 *(0,02)*	0,17 *(0,02)*	0,16 *(0,02)*

Robust standard errors in parentheses. Others variables and temporal effect calculated but not recorded.

Exposition permanent effect on international trade flows turns out to be forwarded by some years. In the case you think this effect derives from infrastructural activity or from touristic flow increase, it could be interesting verify if the advance is due to a greater demand from abroad of raw material or productions necessary to event-related activities and to event organization or it's due to a touristic flows increase beginning already some years before the event (probably due not to the interest of the tourist to Expo in itself but to a marketing campaign focused first on host country and then on the event).

For all three variables considered (universal exposition, international exposition, both) the effect reaches the peak in the exposition year, and then it decreases, even if not so much. The drop subsequent to Expo year allow us to discard a remarkable impact of touristic flows: if the advance had been due to this movement increase, then reasonably the effect would have continued to grow also in the years following the event (or at least it would have to remain steady), that is when the country promotion reached its peak thanks to the event.

Furthermore, data confirm greater influence of universal exposition than the international ones: among two effects there is a difference swinging between 2% and 8% until Expo year, then the gap raises considerably achieving peaks of 10%. These differences are consistent with structural diversities between two events: international Expos are events smaller in all their characteristic, so less able to stimulate both the entrance of foreign investor and the tourists flow (because of its little media exposure) and to work less as political signal intended to renew the country economic capacity.

Table 3b – Forwarded and delayed transitory Expo effect.

	Advance			Exposition Year	Delay		
	3 years	**2 years**	**1 year**		**2 years**	**1 year**	**3 years**
Universal Exposition	-0,08 *(0,04)*	-0,07 *(0,04)*	-0,03 *(0,04)*	-0,02 *(0,04)*	0,00 *(0,04)*	0,02 *(0,04)*	0,07 *(0,04)*
International Exposition	0,04 *(0,03)*	0,03 *(0,03)*	0,05 *(0,03)*	0,02 *(0,07)*	0,03 *(0,03)*	0,00 *(0,03)*	-0,01 *(0,03)*
Universal or International Exposition	0,00 *(0,02)*	0,00 *(0,02)*	0,02 *(0,02)*	0,01 *(0,02)*	0,02 *(0,02)*	0,01 *(0,02)*	0,01 *(0,02)*

Robust standard errors in parentheses. Others variables and temporal effect calculated but not recorded.

As far as transitory effect is concerned, also forwarded and delayed dummies seem irrelevant. Coefficient are very near to zero in some cases, and less superior in the others. Moreover, in the period before an universal exposition, coefficients are always negative. Permanent character of the effect is confirmed once again.

Results of these assessment seem confirm the hypothesis for which infrastructural activity or touristic flows aren't the first cause of international trade flows increase, even if they have their influence: it seems more appropriate to trace back the impact to a clear political signal dedicated to affirm the host country economy in the international panorama through the openness to new international trade.

4.4 The effect associated with the candidacy.

Until now, proposed model compared host countries with non-host countries to examine the Expo effect on international trade flows. This is a valid strategy for two reasons: not every countries have never host an exposition; some countries hosted more than one exposition in the considered period. However, form another point of view, it could seem that we are comparing elements of different nature, because host countries have to obey to precise parameters imposed by Bie, that, obviously, not all countries have or in theory can get ready to have. A way to compensate for this doubt is comparing host countries with those that, although they have bid for the expositions, were not chosen by Bie (i.e. the unsuccessful candidates).

This methodology seems correct in principle but it clashes against data shortage. In the period considered in the model expositions suffered of a great loss of interest above all in the developed countries, because of the achievement of new transport and communication technologies which permit to people to move and communicate in a fast and economic way: reasons that pushed countries to organize an expositions in the previous decades fail since 1950, like showing technologic and scientific progresses. Therefore, expositions nature is changed; these events turned progressively into cultural events, opportunity to cope with particularly interesting theme (nature, nutrition, degradation of the environment , etc.). This phenomenon, combined with the scarcity of clearness in awarding mechanism by Bie till fifteen years ago, brought to the lack of a very and proper "assignment competition" among countries to win the organisation of the

exposition of the last century second half, like on the contrary it's happened with Olympic Games right from the last century beginning. There are official candidatures only since 1992 universal exposition5, when Bie assigned candidate city status after a structured process aimed at verify the respondency of precise criterions and the existence of abilities and competences necessary to the organisation among candidates cities, like it happens for Olympics by Ioc.

Statistically, this lack of data could be a problem. In this analysis we chose to contract our dataset, removing all variables before 1990. Dummy variables for countries that were unsuccessful candidates to host an exposition were constructed in the same way of those for countries that host an expositions: for example, Venice was the candidates city to 2000 universal Expo, so all observation for Italy since 2000 ahead are unity.

In this paragraph we report only main results of analysis concerned with universal Expo. We chose to show only the permanent effect analysis, given the negligibility of the transitory one pointed out in all previous analysis.

Table 4 – Effect of Expo hosting and candidacy.

	Fixed effect: importer, exporter
Universal Exposition Host	0,01 *(0,04)*
Universal Exposition Candidacy	0,01 *(0,04)*

Robust standard errors in parentheses. Others variables and temporal effect calculated but not recorded.

Maybe these are the most surprising results of whole analysis. Both coefficients are significant and positive. The effect on exports derives not only from hosting an exposition, but also from being a country that competed for its assignment. Signaling to general public that country has force, ability, competences and resources to host a mega-event as a universal exposition is associated with a positive and significant effect on international trade. This result is in agreement with the previously suggested hypothesis, according to which effect doesn't derive from the infrastructural activity connected with the event or from touristic flows increase, but it derives from a precise signal that country send abroad presenting itself as a candidate for a mega-event directed to create a climate open to international trade. Otherwise, we can't explain a so strict similarity between two effects: if you didn't accept this hypothesis but traced back the impact of expositions to construction and organization activities or to the increase of touristic flows connected with the event (assumptions in part already denied by previous analysis), you would expect a positive and significant coefficient only for the dummy associated to Expo and you couldn't explain candidate dummy coefficient.

4.5 Expo effect compared to Olympic effect.

The only other mega-event comparable to exposition for its impact on economy, culture, society and infrastructure are the Olympic Games.

Olympics are the sport event par excellence. In their present meaning they are born in 1896, when they were organised for the first time in Athens. In the last century they obtained an increasingly international

prestige, turning into cultural, social and commercial events from simply sport event. Unlike expositions, Olympics never lose importance but, on the contrary, they increased their captivation in every continent's countries, augmenting number of participant countries and athletes and public reached in every part of the world. Like expositions, they require huge investments for the construction of sport facilities and related infrastructures, as well as they act as showcase for the host country, maybe in a greater way than expositions. Furthermore, like exposition Olympics divide in two categories: Summer Games and Winter Games, reduced in principal structural characteristics.

In the following analysis we chose to compare exposition effect with Olympic Games effect, to verify if the events are comparable in terms of impact on international trade, in spite of their different kind. Dummy variables connected to Olympics have been constructed in the same way to those connected to expositions. Results presented here don't include transitory effect, because of its scarce significance.

Following table shows results of the analysis in which we compared permanent Expo effect with Summer Olympics one; first we considered two type of exposition separately, then they were considered together. Finally, a statistic test has been done to verify if two effects are comparable or not (test F).

Table 5 – Permanent Expo and Summer Olympic effect on exports.

	Fixed effect: exporter, importer	**Fixed effect: exporter, importer**
Universal Exposition	0,01 *(0,02)*	-
International Exposition	-0,04 *(0,02)*	
Universal or International Exposition	-	0,11 *(0,02)*
Summer Olympic	0,32 *(0,08)*	0,26 *(0,02)*
Expo = Summer Olympic? *(p-value)*	0,00	0,00

Robust standard errors in parentheses. Others variables and temporal effect calculated but not recorded.

All coefficients are significant. The first column shows as Summer Olympics effect is much more consistent than those associated to universal exposition, which coefficient remains positive, and to international exposition, which coefficient is even negative. If you didn't consider the difference between universal and international Expo, you would see that two coefficient come nearer, even if the Summer Olympic one remain higher. Olympics impact is quantifiable in about 37% in the first case and in 27% in the second: as you can see in the whole table reported in Appendix, result is almost equivalent to the impact of a regional trade agreement between countries pair, so it is of great meaning.

Moreover, test F row shows always a p-value equal to zero. From a statistic point of view, this means that we refuse null hypothesis: in other words, it confirms that the impact of the two mega-events on host country exports is different.

Following table reports results of an analysis identical to the previous one, but it has Winter Games as subject. Results are less clear. All coefficients are once again significant. However, both columns show a negative coefficient for the Winter Olympics, result at least surprising. It's difficult to interpret this data; on the other hand, it's useful dwelling on coefficients relative to two types of exposition and to exposition in general. They are positive, significant and consistent.

Table 5b – Permanent Expo and Winter Olympic effect on exports.

	Fixed effect: exporter, importer	**Fixed effect: exporter, importer**
Universal Exposition	0,14 *(0,01)*	-
International Exposition	0,14 *(0,03)*	
Universal or International Exposition	-	0,25 *(0,02)*
Winter Olympic	-0,16 *(0,03)*	-0,14 *(0,02)*
Expo = Winter Olympic? *(p-value)*	0,00	0,00

Robust standard errors in parentheses. Others variables and temporal effect calculated but not recorded.

Based on two previous tables, we can define a sort of "ranking" of mega-events which impact more on international trade flows. The event that succeed in influencing exports in a greater measure is Summer Olympic, followed by universal and international Expo and finally by Winter Olympic. Going back to the previous hypothesis, according to which exposition effect (but we could believe it is a mega-event effect) on international trade flows can be interpreted as a signal that host country send about its competences and abilities, we can affirm that a country has more than one opportunity to choose through what kind of event sending the signal, according to its capacities and resources. You have to consider, in fact, that proposed ranking also list events on the basis of the necessary economic resource: Summer Games are the most expensive event in terms of economic and human resource and of organisational abilities, while the Winter ones are the event that requires less efforts in this sense.

These considerations appear interesting above all in light of recent hypothesis about an Italian candidacy for the Summer Olympic Games of 2020. Without getting to the heart of the content of the two cities stood as candidates to Coni, it could be appropriate opening a discussion about the opportunity of an Italian candidacy for an event that Italy shall host only after five years after Milan Expo, considering if positive aspects of such an event will be able to exceed necessary costs to its organization and if it's appropriate hosting two event so close for Italy, considering that at least other forty years will be necessary before the country can host one once again.

5. Conclusions.

Reasons for hosting a mega-event and desired effects with its organisation seem avoid to recent economic studies. Indeed, expected benefits rarely were positive; in literature researcher have often tried to justify the run-up to organisation of these events with pursuing advantages of social or psychological background, elements of difficult measurement for their nature itself. Nevertheless, an increasing number of countries (both developed and underdeveloped) apply themselves in a run-up to win the organisation of mega-events like Olympic Games or expositions.

In this paper we tried to find an explanation to this apparent antinomy, investigating the existence of a mega-event impact on international trade flows, so that an effect on commercial openness of the host countries could be a valid reason to their organisation. In particular, we analysed universal and international impact, in view of Milan Expo 2015.

We can derive following conclusions from performed analysis. A permanent and significant exposition effect exists on host country international trade flows; it involve both an increase of exports and an increase of imports, pointing out a commercial openness of host country. This effect is significant above all for universal expositions, while it's appreciably smaller for international ones. Permanent universal exposition effect show itself in advance relative to exposition, peaks in the exposition year and keeps itself to moderately high levels also in the following years; on the contrary, the effect connected with international exposition vanishes in the following period.

Also candidacy to an exposition implies an export increase; however, this results appears less consistent from a statistic point of view, because of the smaller size of the used data set.

Expo effect is smaller than that of the other mega-event par excellence, Summer Games, but greater than Winter Games one; so, there is a certain correspondence between the amount of resources employed in the organisation and the effects on international trade.

We have also proposed an hypothesis about the nature of exposition impact on international trade. Presented analysis show existence of an Expo effect on international trade flows. The effect is positive, significant and permanent. As indicated in the previous paragraph, it's difficult to trace back this impact to preparatory activity of the event or to touristic flows increase. These phenomenon play surely an important role, but probably they impact on other macroeconomic variables of countries hosting an exposition: however, we can affirm that they aren't the first cause of the effect on international trade.

Expo effect on international trade flows seems interpretable as a true and proper political and institutional signal with which host country sends a signal to general public of a liberalisation process of its commerce in progress. Planning an exposition, a country shows own competences, abilities, means and resources, creating in this way a political and economic atmosphere open to trade with other countries. This hypothesis is confirmed in particular by two results: first of all, a significant effect exists also for unsuccessful candidates; so, candidacy can be considered as the means through which sending signal of own capacities and resources, the means through which making own potentials and own renewed economic impulse known. Secondly, effect doesn't involve only outflows, but also inflows: so, expositions aren't only simple stimulating exports

events, but they significantly draw on both commercial flows. Otherwise, here proposed hypothesis would fall and it would been appropriate to deepen the role of foreign productions interested in the infrastructural activities and in the organisational phase of the event.

If you accept this hypothesis, a marked change of the political and institutional clima in which Expo 2015 is growing appears necessary. Milan adventure started under the best omens. Lombardy main town knew to count up on a cross-network of supporters. Support and involvement came from all institutions and all politic parties: to obtain nomination by Bie it had been necessary playing on two fronts. An abroad one, to find the support of countries that will vote the elected city, and a domestic one, to find the endorsement of every institutional level and political party. On both fronts Italy always stood united and involved authorities always supported candidacy with a unique voice. Teamwork that has distinguished Milan in two years before Bie nomination of Milan as host city6 was reckoned at the basis of its success by all Italian and foreign commentators, as well as by all institutional personalities involved in the project. Milan won obviously thanks to its proposal validity and to effectiveness of the theme chosen for the exposition7, but maybe victory couldn't be possible without cohesion among all political parties and institutional player in support of candidature, also in light of Izmir proposal value and support assured by many countries to Turkish city.

Responsibility of players involved and consciousness that Expo 2015 can be a great opportunity not only for the Lombardy city but also for whole Italy replaced classic and often sterile political opposition, becoming a behaviour scheme in which pride for own country, ambition of playing a decisive role in global economy and national interest become central.

A similar atmosphere should be the ideal basis for the political signal the Italy could send by expositions, that signal that could cause a considerable impact on international trade, aimed to promote Milan and Italy in the world economic context.

Milan project seems instead to be stranded on several and different themes subject of political and institutional quarrels, after a fast and from everyone supported start. It appear urgent to resume united way and teamwork that had characterized candidacy process until win on March 2008. Otherwise, Milan Expo 2015 risks to become the umpteenth unsuccessful opportunity for country rebirth and the possibility to impact in a deep way on Italian commercial system is frustrated.

Appendix.

A1. Countries considered in the analysis.

Afghanistan
Albania
Algeria
Angola
Argentina
Armenia
Aruba
Australia
Azerbaijan
Bahamas
Bahrain
Bangladesh
Barbados
Belarus
Belgium
Belize
Benin
Bermuda
Bolivia
Bosnia & Herzegovina
Brazil
Brunei
Bulgaria
Burkina Faso
Burundi
Cambodia
Cameroon
Canada
Cape Verde
Central African Republic
Chad
Chile
China
Colombia
Comoros
Costa Rica
Cote d'Ivoire
Croatia
Cuba
Cyprus
Czechoslovakia
Democratic Republic of Congo
Denmark
Djibouti
Dominica
Dominican Republic
East Timor
Ecuador
Egypt
El Salvador
Equatorial Guinea
Estonia
Ethiopia
Faeroe Islands
Federal Republic of Germany
Fiji
Finland
France
French Guyana
French Polynesia
Gabon
Gambia
Georgia
German Democratic Republic
Germany
Ghana
Greece
Greenland
Grenada
Guadalupe
Guatemala
Guinea
Guinea Bissau
Guyana
Haiti
Honduras
Hong Kong
Hungary
Iceland
India
Indonesia
Iran
Iraq
Ireland
Israel
Italy
Jamaica
Japan
Jordan
Kazakhstan
Kenya
Kirghizstan
Kuwait
Laos
Latvia
Lebanon
Liberia
Libya
Lithuania
Luxembourg
Macau
Macedonia

Madagascar
Malawi
Malaysia
Maldives
Mali
Martinique
Mauritania
Mauritius
Mexico
Moldova
Mongolia
Montserrat
Morocco
Mozambique
Myanmar
Nepal
Netherlands
Netherlands Antilles
New Caledonia
New Zealand
Nicaragua
Niger
Nigeria
North Korea
North Yemen
Norway
Oman
Pakistan
Panama
Papua N. Guinea
Paraguay
Peru
Philippines
Poland
Portugal
Qatar
Republic of Congo
Reunion
Romania
Russia
Rwanda
Saint Kitts & Nevis
Saint Lucia
Saint Vincent & Grenadine
São Tomé e Príncipe
Saudi Arabia
Senegal
Seychelles
Sierra Leone
Singapore
Slovakia
Slovenia
Socialist Federal Republic of Yugoslavia
Solomon Islands
Somalia
South Africa
South Korea
South Yemen
Spain
Sri Lanka
Sudan
Suriname
Sweden
Switzerland
Syria
Taiwan
Tajikistan
Tanzania
Thailand
Togo
Tonga
Trinidad & Tobago
Tunisia
Turkey
Turkmenistan
Uganda
Ukraine
United Arab Emirates
United Kingdom
United States of America
Uruguay
USRR
Uzbekistan
Vanuatu
Venezuela
Vietnam
Western Samoa
Yemen
Yugoslavia
Zimbabwe

A2. Events considered in the analysis.

Table A2.1 – Universal expositions.

Year	Host		Theme	Candidate	
	City	*Country*		*City*	*Country*
1958	Brussels	*Belgium*	*A more human world*		
1962	Seattle	*USA*	*Man in the Space Age*		
1967	Montreal	*Canada*	*Man and his World Land*		
1970	Osaka	*Japan*	*Progress and harmony*		
1982	Knoxville	*USA*	*Energy turns the World*		
1985	Tsukuba	*Japan*	*Science and technology for man at Home*		
1988	Brisbane	*Australia*	*Leisure in the Age of Technology*		
1992	Sevilla	*Spain*	*The Era of Discovery*	Chicago	*USA*
2000	Hannover	*Germany*	*Humankind, nature, Technology*	Toronto Venice	*Canada Italy*
2005	Aichi	*Japan*	*Nature's wisdom*	Calgary Gold Coast	*Canada Australia*

Table A2.2 – International expositions.

Year	Host		Theme	Candidate	
	City	*Country*		*City*	*Country*
1961	Turin	*Italy*	*Centenary of Unity of Italy*		
1965	Munich	*Germany*	*Transports*		
1968	San Antonio	*USA*	*Confluence of civilizations in the Americas*		
1971	Budapest	*Hungary*	*The influence of hunt in the Man and in the Arts*		
1974	Spokane	*USA*	*Tomorrow's fresh new Environment*		
1975	Okinawa	*Japan*	*Sea we would see*		
1984	New Orleans	*USA*	*Worlds of Rivers*		
1986	Vancouver	*Canada*	*Transportation and communication*		
1992	Genoa	*Italy*	*Christopher Columbus, the Ship and the sea*		
1993	Taejon	*South Korea*	*The challenge of a new road of development*		
1998	Lisbon	*Portugal*	*The Oceans: A heritage for the future*	Toronto	*Canada*

Table A2.3 – Summer and Winter Olympic Games.

Year	Summer Games	Winter Games
1952	Helsinki, *Finland*	Oslo, *Norway*
1956	Melbourne, *Australia*	Cortina d'Ampezzo, *Italy*
1960	Rome, *Italy*	Squaw Valley, *USA*
1964	Tokyo, *Japan*	Innsbruck, *Austria*
1968	Mexico City, *Mexico*	Grenoble, *France*
1972	Munich, *Germany*	Sapporo, *Japan*
1976	Montreal, *Canada*	Innsbruck, *Austria*
1980	Moscow, *USSR*	Lake Placid, *USA*
1984	Los Angeles, *USA*	Sarajevo, *Bosnia Erzegovina*
1988	Seoul, *South Korea*	Calgary, *Canada*
1992	Barcelona, *Spain*	Albertville, *France*
1994	-	Lillehammer, *Norway*
1996	Atlanta, *USA*	-
1998	-	Nagano, *Japan*
2000	Sidney, *Australia*	-
2002	-	Salt Lake City, *USA*
2004	Athens, *Greece*	-
2006	-	Turin, *Italy*

Until 1992 both Games were held in the same year; since 1994 Ioc chose a two year alternation between Summer and Winter Games.

A3. Complete results.

Table A3.1 – Permanent Expo effect on exports.

FIXED EFFECTS	NO	NO	YEARS	YEARS	YEARS + COUNTRIES	YEARS + COUNTRIES
Universal Exposition	0,09 *(0,04)*	-	1,23 *(0,05)*	-	0,13 *(0,02)*	-
International Exposition	0,29 *(0,03)*	-	0,93 *(0,04)*	-	0,05 *(0,02)*	-
Universal or International Exposition	-	0,28 *(0,03)*	-	1,28 *(0,04)*	-	0,21 *(0,02)*
Logarithm Distance	-1,11 *(0,02)*	-1,11 *(0,02)*	-1,66 *(0,02)*	-1,67 *(0,02)*	-1,28 *(0,01)*	-1,28 *(0,01)*
Logarithm Exporter Country Population	1,07 *(0,01)*	1,07 *(0,01)*	0,85 *(0,01)*	0,86 *(0,01)*	-0,29 *(0,03)*	-0,27 *(0,03)*
Logarithm Importer Country Population	0,88 *(0,01)*	0,88 *(0,01)*	0,77 *(0,01)*	0,77 *(0,01)*	0,91 *(0,01)*	0,91 *(0,01)*
Logarithm GDP p/c Exporter country	1,55 *(0,01)*	1,55 *(0,01)*	0,84 *(0,01)*	0,84 *(0,01)*	1,26 *(0,02)*	1,25 *(0,02)*
Logarithm Pil p/c Importer country	1,18 *(0,01)*	1,05 *(0,01)*	0,67 *(0,01)*	0,66 *(0,01)*	1,22 *(0,01)*	1,22 *(0,01)*
Currency	1,05 *(0,10)*	1,05 *(0,10)*	0,18 *(0,11)*	0,20 *(0,11)*	0,85 *(0,03)*	0,85 *(0,03)*
Language	0,46 *(0,04)*	0,46 *(0,04)*	0,23 *(0,04)*	0,27 *(0,04)*	0,43 *(0,01)*	0,43 *(0,01)*
RTA	0,29 *(0,03)*	0,28 *(0,03)*	0,14 *(0,03)*	0,10 *(0,03)*	0,31 *(0,01)*	0,31 *(0,01)*
Cont	0,69 *(0,08)*	0,69 *(0,08)*	-0,45 *(0,09)*	-0,47 *(0,09)*	0,44 *(0,02)*	0,44 *(0,02)*
Islands	0,19 *(0,03)*	0,19 *(0,03)*	0,02 *(0,04)*	0,08 *(0,04)*	0,38 *(0,01)*	0,38 *(0,01)*
Logarithm product Area	-0,07 *(0,01)*	-0,07 *(0,01)*	-0,17 *(0,01)*	-0,17 *(0,01)*	-0,06 *(0,00)*	-0,06 *(0,00)*
Com Colony	0,57 *(0,06)*	0,57 *(0,06)*	-0,44 *(0,06)*	-0,47 *(0,06)*	0,56 *(0,02)*	0,56 *(0,02)*
Colony	0,60 *(0,24)*	0,60 *(0,25)*	0,53 *(0,26)*	0,58 *(0,26)*	0,83 *(0,07)*	0,84 *(0,07)*
EverCol	1,41 *(0,10)*	1,37 *(0,10)*	1,66 *(0,11)*	1,60 *(0,11)*	1,52 *(0,02)*	1,52 *(0,02)*
SameCountry	0,11 *(0,72)*	0,11 *(0,73)*	0,47 *(0,83)*	0,51 *(0,84)*	-0,50 *(0,11)*	-0,51 *(0,11)*
R2	0,6098	0,6098	0,9491	0,9488	0,9637	0,9637

Data set includes 449220 bilateral annual observations of 196 countries from 1950 to 2006. Robust standard errors in parentheses. Temporal effect calculated but not recorded.

Table A3.1b – Transitory Expo effect on exports.

FIXED EFFECTS	NO	NO	YEARS	YEARS	YEARS + COUNTRIES	YEARS + COUNTRIES
Universal Exposition	0,10 (0,04)	-	0,96 (0,06)	-	-0,02 (0,04)	-
International Exposition	0,11 (0,03)	-	1,01 (0,04)	-	0,02 (0,07)	-
Universal or International Exposition	-	0,11 (0,03)	-	0,99 (0,04)	-	0,01 (0,02)
Logarithm Distance	-1,12 (0,02)	-1,12 (0,01)	-1,76 (0,02)	-1,76 (0,02)	-1,28 (0,01)	-1,28 (0,01)
Logarithm Exporter Country Population	1,09 (0,01)	1,09 (0,01)	0,93 (0,01)	0,93 (0,01)	-0,31 (0,03)	-0,31 (0,02)
Logarithm Importer Country Population	0,88 (0,01)	0,88 (0,01)	0,75 (0,01)	0,75 (0,01)	0,91 (0,01)	0,91 (0,01)
Logarithm GDP p/c Exporter country	1,59 (0,01)	1,59 (0,01)	0,96 (0,01)	0,96 (0,01)	1,27 (0,02)	1,27 (0,02)
Logarithm Pil p/c Importer country	1,18 (0,01)	1,18 (0,01)	0,60 (0,01)	0,60 (0,01)	1,22 (0,01)	1,22 (0,01)
Currency	1,08 (0,10)	1,08 (0,10)	0,27 (0,11)	0,27 (0,11)	0,85 (0,03)	0,85 (0,03)
Language	0,46 (0,04)	0,46 (0,04)	0,23 (0,04)	0,23 (0,04)	0,43 (0,01)	0,43 (0,01)
RTA	0,27 (0,03)	0,27 (0,03)	0,02 (0,03)	0,02 (0,03)	0,31 (0,01)	0,31 (0,01)
Cont	0,68 (0,08)	0,68 (0,08)	-0,62 (0,09)	-0,62 (0,09)	0,44 (0,02)	0,44 (0,02)
Islands	0,20 (0,03)	0,20 (0,03)	0,12 (0,10)	0,12 (0,04)	0,38 (0,01)	0,38 (0,01)
Logarithm product Area	-0,07 (0,01)	-0,07 (0,01)	-0,17 (0,01)	-0,17 (0,01)	-0,06 (0,00)	-0,06 (0,00)
Com Colony	0,57 (0,06)	0,57 (0,06)	-0,61 (0,06)	-0,61 (0,06)	0,56 (0,02)	0,56 (0,02)
Colony	0,58 (0,24)	0,58 (0,24)	0,48 (0,25)	0,48 (0,25)	0,83 (0,07)	0,83 (0,07)
EverCol	1,42 (0,10)	1,42 (0,10)	1,86 (0,11)	1,86 (0,11)	1,52 (0,02)	1,52 (0,02)
SameCountry	0,10 (0,71)	0,10 (0,71)	0,52 (0,74)	0,52 (0,74)	-0,50 (0,11)	-0,50 (0,11)
R2	0,6093	0,6093	0,9476	0,9476	0,9637	0,9637

Data set includes 449220 bilateral annual observations of 196 countries from 1950 to 2006. Robust standard errors in parentheses.
Temporal effect calculated but not recorded.

Table A3.2 – Permanent Expo effect on imports.

FIXED EFFECTS	NO	NO	YEARS	YEARS	YEARS + COUNTRIES	YEARS + COUNTRIES
Universal Exposition	0,52 (0,05)	-	1,62 (0,06)	-	0,20 (0,02)	-
International Exposition	0,63 (0,04)	-	0,26 (0,05)		0,49 (0,02)	
Universal or International Exposition	-	0,74 (0,04)	-	1,72 (0,04)	-	0,49 (0,02)
Logarithm Distance	-1,09 (0,02)	-1,09 (0,02)	-1,70 (0,02)	-1,71 (0,02)	-1,09 (0,01)	-1,09 (0,01)
Logarithm Exporter Country Population	0,91 (0,01)	0,91 (0,00)	0,71 (0,01)	0,73 (0,01)	0,56 (0,02)	0,56 (0,02)
Logarithm Importer Country Population	1,06 (0,01)	1,06 (0,01)	0,93 (0,00)	0,92 (0,01)	1,05 (0,01)	1,05 (0,01)
Logarithm GDP p/c Exporter country	1,17 (0,01)	1,18 (0,01)	0,50 (0,01)	0,50 (0,01)	0,69 (0,02)	0,69 (0,02)
Logarithm Pil p/c Importer country	1,54 (0,01)	1,54 (0,01)	1,00 (0,01)	0,9 (0,01)	1,56 (0,01)	1,56 (0,01)
Currency	0,89 (0,10)	0,91 (0,10)	0,01 (0,11)	0,04 (0,01)	0,87 (0,03)	0,87 (0,03)
Language	0,49 (0,039	0,51 (0,03)	0,26 (0,04)	0,31 (0,04)	0,47 (0,01)	0,47 (0,01)
RTA	0,33 (0,03)	0,31 (0,03)	0,18 (0,03)	0,13 (0,03)	0,43 (0,01)	0,43 (0,01)
Cont	0,59 (0,08)	0,60 (0,08)	-0,60 (0,09)	-0,62 (0,09)	0,66 (0,02)	0,66 (0,02)
Islands	0,19 (0,03)	0,21 (0,03)	0,01 (0,04)	0,08 (0,04)	0,24 (0,01)	0,24 (0,01)
Logarithm product Area	-0,07 (0,01)	-0,07 (0,01)	-0,18 (0,01)	-0,17 (0,01)	-0,05 (0,00)	-0,05 (0,00)
Com Colony	0,58 (0,05)	0,58 (0,05)	-0,41 (0,06)	-0,45 (0,06)	0,68 (0,01)	0,68 (0,01)
Colony	0,66 (0,23)	0,68 (0,24)	0,62 (0,25)	0,67 (0,25)	0,71 (0,07)	0,74 (0,07)
EverCol	1,38 (0,09)	1,30 (0,09)	1,67 (0,10)	1,57 (0,10)	1,29 (0,02)	1,29 (0,02)
SameCountry	-0,06 (0,64)	-0,06 (0,67)	0,28 (0,77)	0,33 (0,79)	-0,21 (0,13)	-0,24 (0,13)
R2	0,6276	0,6273	0,9483	0,9479	0,9609	0,9609

Data set includes 449220 bilateral annual observations of 196 countries from 1950 to 2006. Robust standard errors in parentheses. Temporal effect calculated but not recorded.

Table A3.2b – Transitory Expo effect on imports.

FIXED EFFECTS	NO	NO	YEARS	YEARS	YEARS + COUNTRIES	YEARS + COUNTRIES
Universal Exposition	0,51 *(0,52)*	-	0,95 *(0,06)*	-	0,02 *(0,05)*	-
International Exposition	0,51 *(0,04)*	-	0,99 *(0,05)*	-	0,05 *(0,03)*	-
Universal or International Exposition	-	0,51 *(0,04)*	-	0,98 *(0,04)*	-	0,04 *(0,03)*
Logarithm Distance	-1,10 *(0,02)*	-1,10 *(0,02)*	-1,70 *(0,02)*	-1,70 *(0,02)*	-1,09 *(0,01)*	-1,09 *(0,01)*
Logarithm Exporter Country Population	0,96 *(0,01)*	0,96 *(0,01)*	0,81 *(0,01)*	0,81 *(0,01)*	0,47 *(0,02)*	0,47 *(0,02)*
Logarithm Importer Country Population	1,05 *(0,01)*	1,05 *(0,01)*	0,96 *(0,01)*	0,96 *(0,01)*	1,05 *(0,01)*	1,05 *(0,01)*
Logarithm GDP p/c Exporter country	1,27 *(0,01)*	1,27 *(0,01)*	0,40 *(0,01)*	0,40 *(0,01)*	0,72 *(0,02)*	0,72 *(0,02)*
Logarithm Pil p/c Importer country	1,54 *(0,01)*	1,54 *(0,01)*	1,07 *(0,01)*	1,07 *(0,01)*	1,56 *(0,01)*	1,56 *(0,01)*
Currency	0,98 *(0,10)*	0,98 *(0,10)*	0,17 *(0,11)*	0,17 *(0,11)*	0,88 *(0,03)*	0,88 *(0,03)*
Language	0,50 *(0,03)*	0,50 *(0,03)*	0,23 *(0,04)*	0,23 *(0,04)*	0,48 *(0,01)*	0,48 *(0,01)*
RTA	0,28 *(0,03)*	0,28 *(0,03)*	-0,08 *(0,03)*	-0,08 *(0,03)*	0,43 *(0,01)*	0,43 *(0,01)*
Cont	0,58 *(0,08)*	0,58 *(0,08)*	-0,53 *(0,09)*	-0,53 *(0,09)*	0,66 *(0,02)*	0,66 *(0,02)*
Islands	0,24 *(0,03)*	0,24 *(0,03)*	0,12 *(0,03)*	0,12 *(0,03)*	0,24 *(0,01)*	0,24 *(0,01)*
Logarithm product Area	-0,06 *(0,01)*	-0,06 *(0,01)*	-0,16 *(0,01)*	-0,16 *(0,01)*	-0,05 *(0,00)*	-0,05 *(0,00)*
Com Colony	0,56 *(0,05)*	0,56 *(0,05)*	-0,10 *(0,06)*	-0,10 *(0,06)*	0,68 *(0,01)*	0,68 *(0,01)*
Colony	0,61 *(0,23)*	0,61 *(0,23)*	0,83 *(0,24)*	0,83 *(0,24)*	0,71 *(0,07)*	0,71 *(0,07)*
EverCol	1,43 *(0,09)*	1,43 *(0,09)*	1,63 *(0,11)*	1,63 *(0,11)*	1,30 *(0,02)*	1,30 *(0,02)*
SameCountry	-0,06 *(0,60)*	-0,06 *(0,60)*	0,34 *(0,68)*	0,34 *(0,68)*	-0,21 *(0,13)*	-0,21 *(0,13)*
R2	0,6241	0,6241	0,9491	0,9491	0,9609	0,9609

Data set includes 449220 bilateral annual observations of 196 countries from 1950 to 2006. Robust standard errors in parentheses.
Temporal effect calculated but not recorded.

Table A3.3 – Forwarded and delayed permanent Expo effect on exports.

	Year -3	**Year -2**	**Year -1**	**Year 0**	**Year +1**	**Year +2**	**Year +3**
Universal Exposition	0,08 *(0,02)*	0,09 *(0,02)*	0,11 *(0,02)*	0,13 *(0,02)*	0,11 *(0,02)*	0,10 *(0,02)*	0,10 *(0,02)*
International Exposition	0,06 *(0,02)*	0,06 *(0,02)*	0,06 *(0,02)*	0,05 *(0,02)*	0,02 *(0,02)*	0,00 *(0,02)*	-0,02 *(0,02)*
Universal or International Exposition	0,18 *(0,02)*	0,19 *(0,02)*	0,20 *(0,02)*	0,21 *(0,02)*	0,17 *(0,02)*	0,17 *(0,02)*	0,16 *(0,02)*
Logarithm Distance	-1,25 *(0,01)*	-1,27 *(0,01)*	-1,27 *(0,01)*	-1,28 *(0,01)*	-1,27 *(0,01)*	-1,27 *(0,01)*	-1,27 *(0,01)*
Logarithm Exporter Country Population	-0,26 *(0,03)*	-0,27 *(0,03)*	-0,27 *(0,03)*	-0,29 *(0,03)*	-0,23 *(0,03)*	-0,20 *(0,03)*	-0,19 *(0,03)*
Logarithm Importer Country Population	0,90 *(0,01)*	0,91 *(0,01)*	0,90 *(0,01)*	0,91 *(0,01)*	0,90 *(0,01)*	0,90 *(0,01)*	0,90 *(0,01)*
Logarithm GDP p/c Exporter country	1,31 *(0,02)*	1,27 *(0,02)*	1,26 *(0,02)*	1,26 *(0,02)*	1,26 *(0,02)*	1,26 *(0,02)*	1,27 *(0,02)*
Logarithm Pil p/c Importer country	1,22 *(0,01)*	1,21 *(0,01)*	1,21 *(0,01)*	1,22 *(0,01)*	1,21 *(0,01)*	1,21 *(0,01)*	1,22 *(0,01)*
Currency	0,90 *(0,03)*	0,88 *(0,03)*	0,85 *(0,03)*	0,85 *(0,03)*	0,86 *(0,03)*	0,86 *(0,03)*	0,87 *(0,03)*
Language	0,41 *(0,01)*	0,42 *(0,01)*	0,43 *(0,01)*	0,43 *(0,01)*	0,43 *(0,01)*	0,43 *(0,01)*	0,43 *(0,01)*
RTA	0,29 *(0,01)*	0,30 *(0,01)*	0,31 *(0,01)*	0,31 *(0,01)*	0,30 *(0,01)*	0,29 *(0,01)*	0,28 *(0,01)*
Cont	0,43 *(0,02)*	0,43 *(0,02)*	0,43 *(0,02)*	0,44 *(0,02)*	0,42 *(0,02)*	0,41 *(0,02)*	0,40 *(0,02)*
Logarithm product Area	-0,06 *(0,00)*	-0,06 *(0,00)*	-0,06 *(0,00)*	-0,06 *(0,00)*	-0,06 *(0,00)*	-0,06 *(0,00)*	-0,07 *(0,00)*
Com Colony	0,57 *(0,02)*	0,57 *(0,02)*	0,56 *(0,02)*	0,56 *(0,02)*	0,54 *(0,02)*	0,53 *(0,02)*	0,52 *(0,02)*
Colony	0,79 *(0,07)*	0,80 *(0,07)*	0,82 *(0,07)*	0,83 *(0,07)*	0,82 *(0,07)*	0,80 *(0,08)*	0,82 *(0,08)*
EverCol	1,51 *(0,02)*	1,51 *(0,02)*	1,51 *(0,02)*	1,52 *(0,02)*	1,49 *(0,02)*	1,48 *(0,02)*	1,47 *(0,02)*
SameCountry	-0,48 *(0,12)*	-0,47 *(0,12)*	-0,48 *(0,12)*	-0,50 *(0,11)*	-0,50 *(0,11)*	-0,47 *(0,11)*	-0,47 *(0,12)*
R2	0,9664	0,9658	0,9657	0,9637	0,9667	0,9676	0,9684

Data set includes 449220 bilateral annual observations of 196 countries from 1950 to 2006. Robust standard errors in parentheses. Regressions without fixed effect and with temporal fixed effect calculated but not reported. Temporal effect calculated but not recorded.

Table A3.3b – Forwarded and delayed transitory Expo effect on exports.

	Year -3	**Year -2**	**Year -1**	**Year 0**	**Year +1**	**Year +2**	**Year +3**
Universal Exposition	-0,08 *(0,04)*	-0,07 *(0,04)*	-0,03 *(0,04)*	-0,02 (0,04)	0,00 *(0,04)*	0,02 *(0,04)*	0,07 *(0,04)*
International Exposition	0,04 *(0,03)*	0,03 *(0,03)*	0,05 *(0,03)*	0,02 (0,07)	0,03 *(0,03)*	0,00 *(0,03)*	-0,01 *(0,03)*
Universal or International Exposition	0,00 *(0,02)*	0,00 *(0,02)*	0,02 *(0,02)*	0,01 *(0,02)*	0,02 *(0,02)*	0,01 *(0,02)*	0,01 *(0,02)*
Logarithm Distance	-1,26 *(0,01)*	-1,27 *(0,01)*	-1,27 *(0,01)*	-1,28 *(0,01)*	-1,27 *(0,01)*	-1,27 *(0,01)*	-1,27 *(0,01)*
Logarithm Exporter Country Population	-0,28 *(0,03)*	-0,29 *(0,03)*	-0,29 *(0,03)*	-0,31 *(0,03)*	-0,25 *(0,03)*	-0,22 *(0,03)*	-0,21 *(0,03)*
Logarithm Importer Country Population	0,90 *(0,01)*	0,91 *(0,01)*	0,90 *(0,01)*	0,91 *(0,01)*	0,90 *(0,01)*	0,90 *(0,01)*	0,90 *(0,01)*
Logarithm GDP p/c Exporter country	1,32 *(0,02)*	1,27 *(0,02)*	1,26 *(0,02)*	1,27 *(0,02)*	1,26 *(0,02)*	1,26 *(0,02)*	1,27 *(0,02)*
Logarithm Pil p/c Importer country	1,22 *(0,01)*	1,21 *(0,01)*	1,21 *(0,01)*	1,22 *(0,01)*	1,21 *(0,01)*	1,21 *(0,01)*	1,22 *(0,01)*
Currency	0,90 *(0,03)*	0,88 *(0,03)*	0,85 *(0,03)*	0,85 *(0,03)*	0,86 *(0,03)*	0,86 *(0,03)*	0,87 *(0,03)*
Language	0,41 *(0,01)*	0,42 *(0,01)*	0,43 *(0,01)*	0,43 *(0,01)*	0,43 *(0,01)*	0,43 *(0,01)*	0,43 *(0,01)*
RTA	0,29 *(0,01)*	0,30 *(0,01)*	0,30 *(0,01)*	0,31 *(0,01)*	0,30 *(0,01)*	0,29 *(0,01)*	0,28 *(0,01)*
Cont	0,33 *(0,02)*	0,43 *(0,02)*	0,43 *(0,02)*	0,44 *(0,02)*	0,42 *(0,02)*	0,41 *(0,02)*	0,40 *(0,02)*
Logarithm product Area	-0,06 *(0,00)*	-0,06 *(0,00)*	-0,06 *(0,00)*	-0,06 *(0,00)*	-0,06 *(0,00)*	-0,06 *(0,00)*	-0,07 *(0,00)*
Com Colony	0,57 *(0,02)*	0,57 *(0,02)*	0,56 *(0,02)*	0,56 *(0,02)*	0,54 *(0,02)*	0,53 *(0,02)*	0,52 *(0,02)*
Colony	0,79 *(0,07)*	0,80 *(0,07)*	0,81 *(0,07)*	0,83 *(0,07)*	0,82 *(0,07)*	0,80 *(0,08)*	0,81 *(0,08)*
EverCol	1,51 *(0,02)*	1,51 *(0,02)*	1,50 *(0,02)*	1,52 *(0,02)*	1,49 *(0,02)*	1,48 *(0,02)*	1,47 *(0,02)*
SameCountry	-0,48 *(0,12)*	-0,47 *(0,12)*	-0,48 *(0,12)*	-0,50 *(0,11)*	-0,49 *(0,11)*	-0,46 *(0,11)*	-0,47 *(0,12)*
R2	0,9664	0,9658	0,9657	0,9637	0,9667	0,9676	0,9684

Data set includes 449220 bilateral annual observations of 196 countries from 1950 to 2006. Robust standard errors in parentheses. Regressions without fixed effect and with temporal fixed effect calculated but not reported. Temporal effect calculated but not recorded.

Table A3.4 – Effect of Expo hosting and candidacy on exports.

FIXED EFFECTS	NO	NO	YEARS	YEARS	YEARS + COUNTRIES	YEARS + COUNTRIES
Universal Exposition Host	0,06 *(0,06)*	-	0,80 *(0,08)*	-	0,01 *(0,04)*	-
International Exposition Host	0,38 *(0,04)*	-	1,07 *(0,06)*	-	-0,14 *(0,03)*	-
Universal Exposition Candidacy	-0,20 *(0,06)*	-	1,15 *(0,09)*	-	0,01 *(0,04)*	-
International Exposition Candidacy	-0,06 *(0,09)*	-	0,62 *(0,13)*	-	-0,06 *(0,06)*	-
Universal or International Exposition Host	-	0,29 *(0,04)*	-	1,16 *(0,05)*	-	-0,10 *(0,03)*
Universal or International Exposition Candidacy	-	-0,23 *(0,07)*	-	1,78 *(0,08)*	-	0,00 *(0,03)*
Logarithm Distance	-1,21 *(0,02)*	-1,21 *(0,02)*	-1,91 *(0,02)*	-1,91 *(0,02)*	-1,42 *(0,01)*	-1,42 *(0,01)*
Logarithm Exporter Country Population	0,91 *(0,01)*	1,16 *(0,01)*	0,97 *(0,01)*	0,97 *(0,01)*	0,07 *(0,10)*	0,07 *(0,10)*
Logarithm Importer Country Population	0,91 *(0,01)*	0,91 *(0,01)*	0,79 *(0,01)*	0,79 *(0,01)*	0,96 *(0,00)*	0,96 *(0,00)*
Logarithm GDP p/c Exporter country	1,65 *(0,01)*	1,65 *(0,01)*	0,94 *(0,01)*	0,94 *(0,01)*	0,71 *(0,04)*	0,71 *(0,04)*
Logarithm Pil p/c Importer country	1,23 *(0,01)*	1,23 *(0,01)*	0,64 *(0,01)*	0,64 *(0,01)*	1,27 *(0,01)*	1,27 *(0,01)*
Currency	0,85 *(0,12)*	0,84 *(0,12)*	-0,16 *(0,01)*	-0,16 *(0,01)*	0,44 *(0,04)*	0,44 *(0,04)*
Language	0,66 *(0,04)*	0,66 *(0,04)*	0,41 *(0,05)*	0,41 *(0,05)*	0,65 *(0,01)*	0,65 *(0,01)*
RTA	0,26 *(0,03)*	0,26 *(0,03)*	0,11 *(0,03)*	0,10 *(0,03)*	0,28 *(0,01)*	0,28 *(0,01)*
Cont	1,02 *(0,09)*	1,01 *(0,09)*	-0,28 *(0,10)*	-0,28 *(0,10)*	0,72 *(0,03)*	0,72 *(0,03)*
Islands	0,24 *(0,03)*	0,24 *(0,01)*	0,10 *(0,04)*	0,10 *(0,04)*	0,42 *(0,01)*	0,42 *(0,01)*
Logarithm product Area	-0,06 *(0,01)*	-0,06 *(0,01)*	-0,20 *(0,01)*	-0,20 *(0,01)*	-0,06 *(0,00)*	-0,06 *(0,00)*
Com Colony	0,56 *(0,06)*	0,55 *(0,06)*	-0,54 *(0,06)*	-0,54 *(0,06)*	0,64 *(0,02)*	0,64 *(0,02)*
Colony	0,41 *(0,44)*	0,41 *(0,44)*	0,09 *(0,63)*	0,12 *(0,06)*	0,58 *(0,11)*	0,58 *(0,11)*
EverCol	1,52 *(0,10)*	1,51 *(0,10)*	2,04 *(0,11)*	2,01 *(0,11)*	1,56 *(0,03)*	1,56 *(0,03)*
SameCountry	0,20 *(0,50)*	0,20 *(0,50)*	0,94 *(0,69)*	0,94 *(0,69)*	0,64 *(0,02)*	-0,16 *(0,11)*
R2	0,6197	0,6196	0,9369	0,9369	0,9573	0,9573

Data set includes 449220 bilateral annual observations of 196 countries from 1950 to 2006. Robust standard errors in parentheses.
Temporal effect calculated but not recorded.

Table A3.5 – Permanent Expo and Summer Olympic effect on exports.

FIXED EFFECTS	NO	NO	YEARS	YEARS	YEARS + COUNTRIES	YEARS + COUNTRIES
Universal Exposition	-0,01 *(0,04)*	-	0,87 *(0,05)*	-	0,01 *(0,02)*	-
International Exposition	0,21 *(0,03)*	-	0,85 *(0,05)*	-	-0,04 *(0,02)*	-
Universal or International Exposition	-	0,19 *(0,03)*	-	0,88 *(0,04)*	-	0,11 *(0,02)*
Summer Olympic	0,26 *(0,04)*	0,25 *(0,04)*	0,67 *(0,04)*	0,97 *(0,05)*	0,32 *(0,02)*	0,26 *(0,02)*
Logarithm Distance	-1,11 *(0,02)*	-1,11 *(0,02)*	-1,66 *(0,02)*	-1,66 *(0,02)*	-1,28 *(0,01)*	-1,28 *(0,01)*
Logarithm Exporter Country Population	1,06 *(0,01)*	1,06 *(0,01)*	0,84 *(0,01)*	0,85 *(0,01)*	-0,29 *(0,03)*	-0,27 *(0,03)*
Logarithm Importer Country Population	0,89 *(0,01)*	0,89 *(0,01)*	0,78 *(0,01)*	0,78 *(0,01)*	0,91 *(0,00)*	0,91 *(0,00)*
Logarithm GDP p/c Exporter country	1,54 *(0,01)*	1,54 *(0,01)*	0,83 *(0,01)*	0,82 *(0,01)*	1,25 *(0,02)*	1,24 *(0,02)*
Logarithm Pil p/c Importer country	1,18 *(0,01)*	1,18 *(0,01)*	0,68 *(0,01)*	0,68 *(0,01)*	1,22 *(0,01)*	1,22 *(0,01)*
Currency	1,04 *(0,10)*	1,04 *(0,10)*	0,16 *(0,11)*	0,17 *(0,11)*	0,85 *(0,03)*	0,85 *(0,03)*
Language	0,46 *(0,04)*	0,46 *(0,04)*	0,23 *(0,04)*	0,26 *(0,04)*	0,43 *(0,01)*	0,43 *(0,01)*
RTA	0,28 *(0,03)*	0,29 *(0,03)*	0,14 *(0,03)*	0,11 *(0,03)*	0,31 *(0,01)*	0,32 *(0,01)*
Cont	0,69 *(0,08)*	0,69 *(0,08)*	-0,43 *(0,09)*	-0,43 *(0,09)*	0,44 *(0,02)*	0,44 *(0,02)*
Islands	0,18 *(0,03)*	0,17 *(0,03)*	-0,03 *(0,04)*	0,00 *(0,04)*	0,37 *(0,01)*	0,37 *(0,01)*
Logarithm product Area	-0,07 *(0,01)*	-0,07 *(0,01)*	-0,18 *(0,01)*	-0,18 *(0,01)*	-0,06 *(0,00)*	-0,06 *(0,00)*
Com Colony	0,58 *(0,06)*	0,58 *(0,06)*	-0,37 *(0,06)*	-0,40 *(0,03)*	0,56 *(0,02)*	0,56 *(0,02)*
Colony	0,59 *(0,24)*	0,59 *(0,24)*	0,51 *(0,25)*	0,54 *(0,25)*	0,81 *(0,07)*	0,82 *(0,07)*
EverCol	1,45 *(0,10)*	1,41 *(0,10)*	1,78 *(0,11)*	1,74 *(0,11)*	1,52 *(0,02)*	1,52 *(0,02)*
SameCountry	0,12 *(0,71)*	0,11 *(0,72)*	0,48 *(0,80)*	0,50 *(0,80)*	-0,48 *(0,11)*	-0,49 *(0,11)*
R2	0,6102	0,6102	0,9494	0,9494	0,9637	0,9637

Data set includes 449220 bilateral annual observations of 196 countries from 1950 to 2006. Robust standard errors in parentheses. Temporal effect calculated but not recorded.

Table A3.5b – Permanent Expo and Winter Olympic effect on exports.

FIXED EFFECTS	NO	NO	YEARS	YEARS	YEARS + COUNTRIES	YEARS + COUNTRIES
Universal Exposition	0,11 *(0,04)*	-	1,23 *(0,05)*	-	0,14 *(0,01)*	-
International Exposition	0,42 *(0,05)*	-	0,95 *(0,06)*	-	0,14 *(0,03)*	-
Universal or International Exposition	-	0,03 *(0,04)*	-	1,19 *(0,05)*	-	0,25 *(0,02)*
Winter Olympic	-0,18 *(0,05)*	-0,01 *(0,04)*	-0,03 *(0,07)*	0,16 *(0,06)*	-0,16 *(0,03)*	-0,14 *(0,02)*
Logarithm Distance	-1,11 *(0,02)*	-1,11 *(0,02)*	-1,67 *(0,02)*	-1,67 *(0,02)*	-1,28 *(0,01)*	1,28 *(0,01)*
Logarithm Exporter Country Population	1,07 *(0,01)*	1,07 *(0,01)*	0,85 *(0,01)*	0,86 *(0,01)*	-0,29 *(0,03)*	-0,27 *(0,03)*
Logarithm Importer Country Population	0,88 *(0,01)*	0,88 *(0,01)*	0,77 *(0,01)*	0,77 *(0,01)*	0,91 *(0,00)*	0,91 *(0,00)*
Logarithm GDP p/c Exporter country	1,55 *(0,02)*	0,88 *(0,01)*	0,84 *(0,01)*	0,69 *(0,01)*	1,26 *(0,02)*	1,25 *(0,02)*
Logarithm Pil p/c Importer country	1,18 *(0,01)*	1,55 *(0,01)*	0,67 *(0,01)*	0,19 *(0,01)*	1,22 *(0,01)*	1,22 *(0,01)*
Currency	1,05 *(0,10)*	1,05 *(0,10)*	0,18 *(0,11)*	0,27 *(0,04)*	0,85 *(0,03)*	0,85 *(0,03)*
Language	0,46 *(0,04)*	0,46 *(0,04)*	0,23 *(0,04)*	0,10 *(0,03)*	0,43 *(0,01)*	0,43 *(0,01)*
RTA	0,28 *(0,03)*	0,28 *(0,03)*	0,14 *(0,03)*	-0,47 *(0,09)*	0,31 *(0,01)*	0,31 *(0,01)*
Cont	0,69 *(0,08)*	0,69 *(0,08)*	-0,45 *(0,09)*	0,08 *(0,00)*	0,44 *(0,02)*	0,44 *(0,02)*
Islands	0,20 *(0,03)*	0,19 *(0,03)*	0,02 *(0,04)*	0,08 *(0,04)*	0,38 *(0,01)*	0,38 *(0,01)*
Logarithm product Area	-0,07 *(0,01)*	-0,07 *(0,01)*	-0,18 *(0,01)*	-0,17 *(0,01)*	-0,06 *(0,00)*	-0,06 *(0,00)*
Com Colony	0,57 *(0,06)*	0,57 *(0,06)*	-0,44 *(0,06)*	-0,47 *(0,06)*	0,56 *(0,02)*	0,56 *(0,02)*
Colony	0,59 *(0,24)*	0,60 *(0,25)*	0,53 *(0,26)*	0,58 *(0,26)*	0,84 *(0,07)*	0,85 *(0,07)*
EverCol	1,41 *(0,10)*	1,37 *(0,10)*	1,66 *(0,01)*	1,61 *(0,83)*	1,52 *(0,02)*	1,52 *(0,02)*
SameCountry	0,12 *(0,72)*	0,11 *(0,73)*	0,47 *(0,83)*	0,51 *(0,83)*	-0,50 *(0,11)*	-0,51 *(0,11)*
R2	0,6099	0,6098	0,9491	0,9488	0,9637	0,9637

Data set includes 449220 bilateral annual observations of 196 countries from 1950 to 2006. Robust standard errors in parentheses. Temporal effect calculated but not recorded.

Bibliography.

Anderson J. (1979) *A Theoretical Foundation for the Gravity Equation*, American Economic Review, 1979, Vol. 69, pp. 106-116.

Anderson J. E., Van Wincoop E. (2001) *Gravity with Gravitas: A Solution to the Border Puzzle*, NBER Working Paper Series, n. 8079.

Baade R. A., Matheson V., (2002) *Bidding for the Olympics: Fool's Gold?*, in Barros P., Ibrahim M., Szymanski S., Transatlantic Sport, chapter 6, 127–151.

Bergstrand J. (1985) *The Gravity Equation in International Trade: Some Macroeconomic Foundations and Empirical Evidence*, The Review of Economics and Statistics, Vol. 6, pp. 474-481.

BIE (no date) *International Exhibitions Protocol*, Paris, Bureau Expositions (BIE).

BIE (no date) *Regulations respecting international exhibitions*, Paris, Bureau Expositions (BIE).

Burns, J. P. A., T. J. Mules (1986) *A framework for the analysis of major special events*. In: J. P. A. Burns, J. H. Hatch and T. J. Mules (ed.): The Adelaide Grand Prix - The Impact of a Special Event. Adelaide (Australia), The Centre for South Australian Economic Studies.

Expo – Milano 2015 Candidacy Dossier (2007) available on http://www.expo2015.org/ita/press-download-documenti-dossier-di-candidatura.htm.

Egger P. (2002) *An Econometric View on the Estimation of Gravity Models and the Calculation of Trade Potentials*, WIFO Working Papers 141, WIFO.

Getz, D. (1989) *Special events. Defining the product*. Tourism Management, June: 125-137.

Greenhalgh, P. (1988) *Ephemeral vistas: the Expositions Universelles; Great Exhibitions and World's Fairs, 1851-1939*, Manchester University Press.

Guala C. (2002) *Per una tipologia dei mega-eventi*, in Bollettino della società geografica italiana, Roma, Serie XII, vol. VII, pp. 743-755.

Hall C.M. (1989) The *Definition and Analysis of Hallmark Events*, in Geojournal, Dordrecht, 1989, 19, pp. 263-268.

Hiller H. (2000) *Mega-Events, Urban Boosterism and Growth Strategies: An Analysis of the Objectives and Legitimations of the Cape Town 2004 Olympic Bid*, in International Journal of Urban and Regional Research, Oxford, 2000, 2, pp. 439-458.

Matyas, L. (1998) *The Gravity Model: Some Econometric Consideration*, The World Economy, Vol. 1, pp. 397-401.

Pred A. (1995) *Recognizing European Modernities. A Montage of the Present*, Londra and New York, Routledge.

Preuss, H. (2004) *The Economics of Staging the Olympics. A Comparison of the Games 1972-2008*, Cheltenham, Glos: Edward Elgar Publishing Limited.

Ritchie, J. R. B. (1984) *Assessing the Impact of Hallmark Events: Conceptual and Research Issues*. Journal of Travel Research, (summer): 2-11.

Roberts, E. J. and P. B. McLeod (1989) *The economics of a hallmark event*. In: G. J. Syme, B. J. Shaw, D. M. Fenton and W. S. Mueller (ed.): The Planning and Evaluation of Hallmark Events. Aldershot (England), Avebury.

Roche M. (1999) *Mega-events, culture and modernity: expos and the origins of public culture*, International Journal of Cultural Policy, 5.1, 1-31.

Roche M. (2000) *Mega-Event and Modernity*, Londra, Routledge.

Rose A. K., Spiegel M. (2009) *The Olympic Effect*, CEPR discussion paper n. 7248.

Syme, G. J., B. J. Shaw, et al., Ed. (1989) *The Planning and Evaluation of Hallmark Events*. Aldershot (England), Avebury.

Travis, A. S., Croize, J. C. (1987) *The role and impact of mega-events and attractions on tourism development in Europe*. Paper for 37th AIEST congress (Association Internationale d'Experts Scientifiques du Turisme), Calgary.

Notes

[1] The most common definition is that proposed by Ritchie (1984), according to whom hallmark events are "Major one-time or recurring events of limited duration, developed primarily to enhance the awareness, appeal and profitability of a tourism destination in the short and/or long term. Such events rely for their success on uniqueness, status or timely significance to create interest and attract attention". It's very important also Roche (2000) definition, then drawn on by CIO, according to whom "mega-events are cultural events of large-scale cultural (including commercial and sporting) events, which have a dramatic character, mass popular appeal and international significance. They are typically organized by a variable combination of government and not government organisation, so that we can affirm that they are very important elements of official version of public culture".

[2] Bie Convention, art. 1 paragraph 1.

[3] Recent historical reference can be done with Korean Olympics of 1988, organized with the explicit purpose to start a "westernalization" process of the Asiatic country; with the radical change of Lisbon and Barcelona thanks to Expos 2000 and Olympics 1992; with the achievement of Turin as touristic destination thanks to the Winter Olympic of 2006.

[4] For the country list see Appendix.

[5] Chicago (USA) was the official candidate for the universal exposition then awarded to Sevilla (ESP).

[6] On March 31, 2008, Milan obtained 86 votes versus 65 votes for Izmir, obtaining in this way the nomination for the universal exposition of 2015 by Bie.

[7] The theme chosen for th ex position, i.e. the question around which every initiatives and every projects connected to Expo will have to revolve, is "Feeding the Planet, Energy for life", with many and strong recall to them of environment sustainability and respect.